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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/774,322 | 02/06/2004 | Sam Michael Sarmast | 200314430-1 | 8533 |
| 22879 | 7590 | 01/20/2006 | EXAMINER | |
| HEWLETT PACKARD COMPANY P O BOX 272400, 3404 E. HARMONY ROAD INTELLECTUAL PROPERTY ADMINISTRATION FORT COLLINS, CO 80527-2400 | | | GARCIA JR, RENE | |
| | | | ART UNIT | PAPER NUMBER |
| | | | 2853 | |

DATE MAILED: 01/20/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | | |
|------------------------------|------------------|----------------|--|
| Office Action Summary | Application No. | Applicant(s) | |
| | 10/774,322 | SARMAST ET AL. | |
| | Examiner | Art Unit | |
| | Rene Garcia, Jr. | 2853 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-33 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-4, 8, 11, 17, 22, 24, 25, 27, 30 and 32 is/are rejected.
- 7) ☒ Claim(s) 5-7, 9, 10, 12-16, 18-21, 23, 26, 28, 29, 31 and 33 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 06 February 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____. |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>6 February 2004</u> | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Specification

1. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

2. The abstract of the disclosure is objected to because legal phraseology "method comprises". Correction is required. See MPEP § 608.01(b).
3. Claim 16 is objected to because of the following informalities: usage of "printhead" and "print head" – need to be consistent with terminology (choose a spelling). Appropriate correction is required.
4. The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required: Claim 20 refers to "pull down resistors" – if dependent upon "pull-down resistors" as claimed in Claim 17 consistent terminology required (choose a spelling).

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 1, 2, 8 and 11 are rejected under 35 U.S.C. 102(b) as being anticipated by Nicol (US 6,449,532).

Nicol discloses the following claimed limitations:

- *regarding claim 1, method for identifying a fluid ejection device comprising:

- *determining first identification information/**dispensing button, 52a-522d/** (fig. 4; col. 4, lines 38-44)

- *based upon the first identification information, querying one or more elements/**memory, 66/** on the fluid ejection device/**beverage dispensing apparatus/** (ABS) that include second identification information/**dispense time/** (fig. 4; col. 5, lines 1-10)

- *determining the second identification information based upon the query (dispense time; fig. 4; col. 5, lines 1-10)

- *determining a plurality of operating of parameters of the fluid ejection device based upon the first and second identification information (col. 5, line 11-20)

- *regarding claim 2, determining first identification information comprises querying a portion of the fluid ejection device that controls operation/**controller, 62/** of one or more fluid ejection elements/**dispensing regulator, 60/** (col. 4, line 54-67)

- *regarding claim 8, wherein the first identification information/**dispense button, 52a-52d/** is indicative of a protocol of the fluid ejection device/**beverage dispensing apparatus/** and wherein querying one or more elements/**memory, 66/** on the fluid ejection device that include second identification information/**dispense time/** comprises querying the identification

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elements/**memory, 66/** based upon the protocol (col. 4, lines 40-44 and lines 45-53;
protocol/sequence/ is to query dispensing regulator/60/ which accesses memory/66/ for dispense
time)

*regarding claim 11, method of identification of a fluid ejection device, comprising:

*providing at least a first signal on one or more lines/**dispense buttons, 52a – 52d/** (fig.
4; col. 4, lines 28-44), the one or more lines coupled to one or more fluid ejection
elements/**dispensing regulator, 60/** that eject fluid

*determining, responsive to the at least first signal (pressing of a dispense button 52a-
52d), first identification information (col. 4, line 40-41)

*providing at least a second signal to one or more elements on the fluid ejection device
that are configured to provide second identification information/**dispense time/** (fig. 4; col. 5,
lines 11-20)

*determining the second identification information responsive to at least the second
signal (dispense time in response to pushing of dispense button, which signals controller/62/
therein querying memor/66/)

*determining a plurality of operating of parameters of the fluid ejection device based
upon the first and second identification information (col. 5, lines 31-54)

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7. Claim 27 is rejected under 35 U.S.C. 102(b) as being anticipated by Helterline et al. (US 6,039,430).

Helterline et al. discloses the following claimed limitations:

*regarding claim 27, fluid ejection device/**ink jet printing system, 10/** (fig. 1), comprising:

*plurality of fluid ejection elements/**printing components, 14/** (fig. 1; col. 2, line 51)

*plurality of identification elements/**information storage device, 38/** (fig. 2b; col. 4, lines 7-11; each printing component/14/ contains one)

*plurality of lines/**electrical contacts, 42/** (fig. 2a; col. 4, lines 14-26) each coupled to a group of the plurality of fluid ejection elements/14/

*means for encoding information (col. 1, lines 57-64) regarding a protocol (col. 2, lines 51-58) of operating the fluid ejection elements/**printing components, 14/**, the means for encoding/**memory storage device, 38/** coupled to at least some of the plurality of lines/**electrical contacts, 42/** (col. 4, lines 7-26; memory storage device includes parameters for operation which are used in a protocol for printing to operate the printing component/14/)

8. Claims 27, 30 and 32 are rejected under 35 U.S.C. 102(b) as being anticipated by Barbehenn et al. (US 5,363,134).

Barbehenn et al. discloses the following claimed limitations:

*regarding claim 27, fluid ejection device/**print head, 41/** (fig. 5), comprising:

*plurality of fluid ejection elements/**nozzles, 27 fig. 4/**

*plurality of identification elements/**integrated identification circuit, 45/** (figs. 5 and 9; col. 4, lines 12-19 and 57-68)

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*plurality of lines/**input lines, 48B/** (fig. 5, lines 17-19) each coupled to a group of the plurality of fluid ejection elements/**nozzles, 27/** (fig. 5; col. 4, lines 12-19; resistor array circuit/44/ is coupled to nozzles for firing and coupled to input line/48B/ thru address drive lines/48A/)

*means for encoding information (col. 1, line 57- col. 2, line 8) regarding a protocol of operating the fluid ejection elements/**nozzles, 27/**, the means for encoding coupled to at least some of the plurality of lines/**input lines, 48B/**

*regarding claim 30, wherein the plurality of lines comprise address lines (col. 4, lines 63-68)

*regarding claim 32, wherein the plurality of lines comprise data lines (col. 3, lines 40-61)

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claims 3 and 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nicol (US 6,449,532) in view of Shannon (US 4,953,751).

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Nicol discloses all the claimed limitations except for the following:

*regarding claim 3, wherein the portion of the fluid ejection device that controls operation comprises a pull-down resistor

*regarding claim 4, wherein the pull down resistor is coupled to a line that is coupled to one or more fluid ejection elements

Shannon discloses the following:

*regarding claim 3, wherein the portion of the fluid ejection device that controls operation comprises a pull-down resistor/48/ (fig. 1; col. 3, lines 21-65) for the purpose of completing the electrical path from a voltage source to the soda and syrup streams to indicate to controller to terminate dispensing soda and syrup

*regarding claim 4, wherein the pull down resistor/48/ is coupled to a line/probes, 44 and 46/ that is coupled to one or more fluid ejection elements/passages, 28 and 26/ (col. 3, lines 54-65) for the purpose of completing the electrical path from a voltage source to the soda and syrup streams to indicate to controller to terminate dispensing soda and syrup

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to utilize a pull-down resistor; and wherein the pull down resistor is coupled to a line that is coupled to one or more fluid ejection elements as taught by Shannon into Nicol for the purpose of completing the electrical path from a voltage source to the soda and syrup streams to indicate to controller to terminate dispensing soda and syrup

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11. Claims 17, 22, 24 and 25 are rejected under 35 U.S.C. 103(a) as being anticipated by Barbehenn et al. (US 5,363,134) in view of Anderson et al. (US 2004/0183844).

Barbehenn et al. discloses the following claimed limitations:

*regarding claim 17, fluid ejection device/**print head, 41/** (fig. 5), comprising:

*plurality of fluid ejection elements/**nozzles, 27 fig. 4/**

*plurality of identification elements/**integrated identification circuit, 45/** (figs. 5 and 9; col. 4, lines 12-19 and 57-68)

*plurality of lines/**input lines, 48B/** (fig. 5, lines 17-19) each coupled to a group of the plurality of fluid ejection elements/**nozzles, 27/** (fig. 5; col. 4, lines 12-19; resistor array circuit/44/ is coupled to nozzles for firing and coupled to input line/48B/ thru address drive lines/48A/)

* plurality of lines encoding information (col. 1, line 57- col. 2, line 8) regarding a protocol for operating the plurality of fluid ejection elements/**nozzles, 27/**

*regarding claim 22, wherein the plurality of lines comprise address lines (col. 4, lines 63-68)

*regarding claim 24, wherein the plurality of lines comprise data lines (col. 3, lines 40-61)

*regarding claim 25, wherein the fluid ejection device is a printhead/14, fig1 /

Barbehenn et al. does not disclose the following claimed limitations:

*regarding claim 17, plurality of pull-down resistors coupled to some of the plurality of lines

Anderson et al. discloses the following:

*regarding claim 17, plurality of pull-down resistors/**R1 and R2**/ (fig. 2 and 3; paragraphs 0022 and 0030) coupled to some of the plurality of lines/**A1-A5**

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to utilize a plurality of pull-down resistors coupled to some of the plurality of lines as taught by Anderson et al. into Barbehenn et al. for the purpose of connecting the each control block to ground electrically.

Allowable Subject Matter

12. Claims 5-7, 9, 10, 12-16, 18-21, 23, 26, 28, 29, 31 and 33 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter:

The primary reason for the allowance of claim 5 is the inclusion of the method steps being wherein determining the first identification information comprises determining a resistance value at the pull down resistor. It is these steps found in each of the claims, as they are claimed in the combination, that has not been found, taught or suggested by the prior art of record which makes these claims allowable over the prior art.

The primary reason for the allowance of claim 6 is the inclusion of the method steps being wherein determining the first identification information comprises determining a voltage

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magnitude at the pull down resistor in response to a current provided to the pull down resistor. It is these steps found in each of the claims, as they are claimed in the combination, that has not been found, taught or suggested by the prior art of record which makes these claims allowable over the prior art.

The primary reason for the allowance of claim 7 is the inclusion of the method steps being wherein querying a portion of the fluid ejection device that controls operation of one or more fluid ejection elements comprises: querying at least one other portion of the fluid ejection device that controls operation of a second group of elements. It is these steps found in each of the claims, as they are claimed in the combination, that has not been found, taught or suggested by the prior art of record which makes these claims allowable over the prior art.

The primary reason for the allowance of claim 9 is the inclusion of the method steps being wherein the protocol is a double data rate protocol. It is these steps found in each of the claims, as they are claimed in the combination, that has not been found, taught or suggested by the prior art of record which makes these claims allowable over the prior art.

The primary reason for the allowance of claim 10 is the inclusion of the method steps being wherein the fluid ejection device is a print head and the first identification information comprises a data rate of operation of the print head. It is these steps found in each of the claims, as they are claimed in the combination, that has not been found, taught or suggested by the prior art of record which makes these claims allowable over the prior art.

The primary reason for the allowance of claim 12 is the inclusion of the method steps being wherein determining, responsive to the at least first signal, first identification information comprises determining a value at least one pull down resistor. It is these steps found in each of

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the claims, as they are claimed in the combination, that has not been found, taught or suggested by the prior art of record which makes these claims allowable over the prior art.

The primary reason for the allowance of claim 15 is the inclusion of the method steps being wherein the first identification information comprises a protocol of operation of the fluid ejection device and wherein providing at least a second signal to one or more elements on the fluid ejection device that are configured to provide second identification information comprises providing signals based upon the protocol. It is these steps found in each of the claims, as they are claimed in the combination, that has not been found, taught or suggested by the prior art of record which makes these claims allowable over the prior art.

The primary reason for the allowance of claim 16 is the inclusion of the method steps being wherein the fluid ejection device is a print head and the first identification information comprises a protocol for ejecting ink from the print head. It is these steps found in each of the claims, as they are claimed in the combination, that has not been found, taught or suggested by the prior art of record which makes these claims allowable over the prior art.

The primary reason for the allowance of claim 18 is the inclusion of the limitations being for a fluid ejection device including a fluid ejection device is coupled with a controller capable of determining a magnitude at each of the pull-down resistors and determining the protocol based on the magnitude of at least some of the pull-down resistors. It is these limitations found in each of the claims, as they are claimed in the combination, that has not been found, taught or suggested by the prior art of record which makes these claims allowable over the prior art.

The primary reason for the allowance of claim 20 is the inclusion of the limitations being for a fluid ejection device including a each of the plurality of pull down resistors has at least a

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first magnitude and a second magnitude, and wherein the first magnitude is indicative of the at least one operating parameter of the fluid ejection device. It is these limitations found in each of the claims, as they are claimed in the combination, that has not been found, taught or suggested by the prior art of record which makes these claims allowable over the prior art.

The primary reason for the allowance of claim 21 is the inclusion of the limitations being for a fluid ejection device including a plurality of lines comprise select lines. It is these limitations found in each of the claims, as they are claimed in the combination, that has not been found, taught or suggested by the prior art of record which makes these claims allowable over the prior art.

The primary reason for the allowance of claim 23 is the inclusion of the limitations being for a fluid ejection device including a plurality of lines comprise fire lines. It is these limitations found in each of the claims, as they are claimed in the combination, that has not been found, taught or suggested by the prior art of record which makes these claims allowable over the prior art.

The primary reason for the allowance of claim 26 is the inclusion of the limitations being for a fluid ejection device including a information regarding the protocol further comprises information that is indicative of parameters for providing signals to the identification elements. It is these limitations found in each of the claims, as they are claimed in the combination, that has not been found, taught or suggested by the prior art of record which makes these claims allowable over the prior art.

The primary reason for the allowance of claim 28 is the inclusion of the limitations being for a fluid ejection device including: wherein the means for encoding information changes from a

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first state to a second state based upon signals received from a controller. It is these limitations found in each of the claims, as they are claimed in the combination, that has not been found, taught or suggested by the prior art of record which makes these claims allowable over the prior art.

The primary reason for the allowance of claim 29 is the inclusion of the limitations being for a fluid ejection device including: wherein the plurality of lines comprises select lines. It is these limitations found in each of the claims, as they are claimed in the combination, that has not been found, taught or suggested by the prior art of record which makes these claims allowable over the prior art.

The primary reason for the allowance of claim 31 is the inclusion of the limitations being for a fluid ejection device including: wherein the plurality of lines comprises fire lines. It is these limitations found in each of the claims, as they are claimed in the combination, that has not been found, taught or suggested by the prior art of record which makes these claims allowable over the prior art.

The primary reason for the allowance of claim 33 is the inclusion of the limitations being for a fluid ejection device including: wherein the information regarding the protocol further comprises information for providing signals to the identification elements. It is these limitations found in each of the claims, as they are claimed in the combination, that has not been found, taught or suggested by the prior art of record which makes these claims allowable over the prior art.

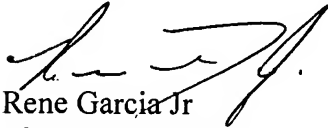
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Communications with the USPTO

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Rene Garcia, Jr. whose telephone number is (571) 272-5980. The examiner can normally be reached on M-F 8:00AM - 4:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen D. Meier can be reached on (571) 272-2149. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Rene Garcia Jr
18 January 2006

 1/06
K. FEGINS
PRIMARY EXAMINER